

We claim:

1. A continuous process which comprises:
  - (a) forming a monomer stream that contains an acrylic monomer and a polyether macromonomer; an initiator stream that contains a free radical initiator; and, optionally, a chain transfer agent stream;
  - (b) polymerizing the streams in a reaction zone at a temperature within the range of about -20°C to about 150°C; and
  - (c) withdrawing a polymer stream from the reaction zone.
2. The process of claim 1 wherein the polymerization temperature is within the range of about 20°C to about 90°C.
3. The process of claim 1 wherein the polymerization temperature is within the range of about 40°C to about 60°C.
4. The process of claim 1 wherein the monomer stream further contains a solvent.
5. The process of claim 1 wherein the initiator stream further contains a solvent.
6. The process of claim 1 wherein the monomer stream further contains a chain transfer agent.
7. The process of claim 1 wherein the initiator stream further contains a chain transfer agent.
8. The process of claim 1 wherein the polyether macromonomer is selected from the group consisting of poly(propylene glycol) acrylate, poly(propylene glycol) methacrylate, poly(ethylene glycol) acrylate, poly(ethylene

glycol) methacrylate, acrylates and methacrylates of an oxyethylene and oxypropylene block and random copolymer, and mixtures thereof.

9. The process of claim 1 wherein the acrylic monomer is selected from the group consisting of acrylic acid, methacrylic acid, sodium acrylate, sodium methacrylate, ammonium acrylate, ammonium methacrylate, potassium acrylate, potassium methacrylate, and mixtures thereof.
10. The process of claim 1 wherein the initiator is a persulfate.
11. The process of claim 1 wherein the chain transfer agent is a mercaptan.
12. The process of claim 4 wherein the solvent is selected from the group consisting of water, methyl alcohol, ethyl alcohol, butyl alcohol, and isopropyl alcohol, and mixtures thereof.
13. The process of claim 5 wherein the solvent is selected from the group consisting of water, methyl alcohol, ethyl alcohol, butyl alcohol, and isopropyl alcohol.
14. The process of claim 6 wherein the chain transfer agent is a mercaptan.
15. The process of claim 7 wherein the chain transfer agent is a mercaptan.
16. A continuous process which comprises:
  - (a) forming a monomer stream that contains an acrylic monomer and a polyether macromonomer; an initiator stream that contains a free radical initiator, and, optionally, a chain transfer agent stream;

- (b) polymerizing the streams in a first reaction zone at a temperature within the range of about -20°C to about 150°C; and
- (c) transferring a first polymer stream from the first reaction zone to a second reaction zone wherein the polymerization continues at a temperature within the range of about -20°C to about 150°C.
- (d) withdrawing a second polymer stream from the second reaction zone.

17. The process of claim 16 wherein the monomer stream comprises 5% to 75% by weight of the acrylic monomer and 95% to 25% by weight of the polyether macromonomer.

18. The process of claim 16 wherein the polyether macromonomer is an acrylate of oxypropylene and oxyethylene random copolymer that has a number average molecular weight from about 500 to about 10,000, and an oxyethylene/oxypropylene ratio from about 20/80 to about 80/20 by weight.

19. The process of claim 16 wherein the acrylic monomer is selected from the group consisting of acrylic acid, methacrylic acid, sodium acrylate, sodium methacrylate, ammonium acrylate, ammonium methacrylate, potassium acrylate, potassium methacrylate, and mixtures thereof.

20. The process of claim 16 wherein the acrylic monomer is acrylic acid.